SRNL
SAVANNAH RIVER NATIONAL LABORATORY™

techbriefs

Solid or Liquid Aerosol Contaminant Extractor (SOLACE)

A novel, compact and portable collector for aerosols has been developed by researchers at Washington's Savannah River National Laboratory (SRNL) that is suitable for handheld operations. Housed in a plastic case, with few moving parts, the Solid Or Liquid Aerosol Contaminant Extractor (SOLACE) is ideally suited for reliable performance while using limited power.

The sample inlet and collection portion detach from the unit for ease in collection and cleaning. Ease of cleaning helps protect the collected sample from cross-contamination. Samples are collected electrostatically on a solid substrate or into a liquid.

Collects airborne particles in hostile environments

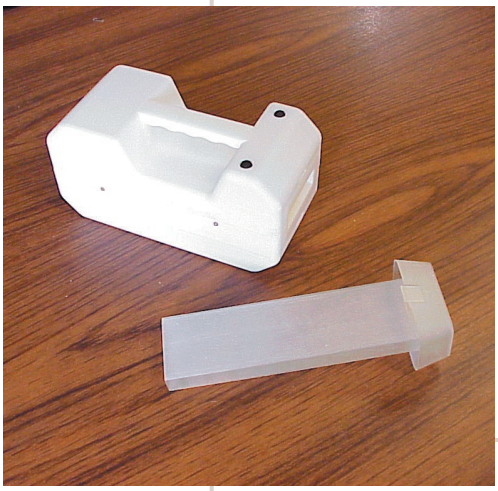
The SOLACE has been tested at collection rates of up to 1,700 liters/minute. Optimum results when the collection medium is a liquid occur at 1,000 liters/minute, with the liquid surface very stable. Turbulence has a detrimental effect on the efficiency of collection due to the development of ripples or waves in the liquid. At 1,200 liters/minute the collection efficiency of the SOLACE is greater than 70% for particles 0.3 micrometers and less and greater than 80% for particles greater than 1.0 micrometer. When collecting on a solid substrate SOLACE can be operated at maximum air flow.

SOLACE operates on 12 volts with less than 1 amp current. It can operate with only one high voltage power supply. Its footprint is 8 X 16 inches. A battery pack of 4 C-cell batteries provides 8 hours of operation.

A second, even more compact unit has a footprint of 4 X 8 inches and uses a battery pack of 6 AA batteries for 8 hours of operation.

at a glance

- collects particles for the detection of methamphetamine laboratories
- collects toxic or radioactive particles
- collects into a liquid or on a solid substrate
- is rugged and portable
- contains few moveable parts
- operates in hostile environments
- u.s. patent pending



Technology transfer

Savannah River National Laboratory is the applied research and development laboratory at the Savannah River Site (SRS). With its wide spectrum of expertise in areas such as homeland security, hydrogen technology, materials, sensors, and environmental science, SRNL's cutting-edge technology delivers high dividends to its customers.

SRNL and SRS are managed for the U.S. Department of Energy by Washington Savannah River Company (WSRC). WSRC is responsible for transferring technologies to the private sector so that these technologies may have the collateral benefit of enhancing U.S. economic competitiveness.

Partnering opportunity

A U.S. patent application has been filed on the SOLACE apparatus and method.

Washington Savannah River Company (WSRC) invites interested companies with proven capabilities in this area of expertise to enter into a licensing agreement with WSRC to manufacture and market this device as a commercial product. Interested companies will be requested to submit a business plan setting forth company qualifications, strategies, activities, and milestones for commercializing this invention. Qualifications should include past experience at bringing similar products to market, reasonable schedule for product launch, sufficient manufacturing capacity, established distribution networks, and evidence of sufficient financial resources for product development and launch.

for more information

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